
Southport Minerals, Inc.

The Search for Investment Opportunity

In 1964, after 5 years of relatively low profitability, the U.S. sulfur industry entered a period of tightening supplies and rising prices. As the largest U.S. sulfur producer, Southport Minerals, Inc., enjoyed sharply increased profitability as this boom progressed (Exhibit 1, cols. 1 and 2). During this period a number of firms, including Southport, made substantial investments aimed at increasing their sulfur production in response to rising demand. In addition to its expansion in the sulfur industry, however, Southport also embarked on a major diversification program to reduce the company's dependence on sulfur, a product that accounted for nearly 90% of Southport's sales in the mid-1960s.

During that period, Southport was financially well positioned for significant diversification. The company was in a highly liquid position (Exhibit 1, col. 3) and had essentially no debt in its capital structure (Exhibit 1, col. 6). Its stock price was also rising sharply (Exhibit 1, cols. 13-14). While Southport was anxious to capitalize on its strong financial position, the firm hoped to diversify through internal means rather than through acquisitions. Unfortunately, for a number of years the firm had been unable to find attractive investment opportunities that were large enough to absorb even a fraction of its available financial resources. In 1967, however, Southport found an opportunity for a major financial commitment to develop a copper mine in Indonesia.

Investigating the Indonesian Copper Mining Opportunity

Two events combined suddenly to provide the opportunity: First, in 1960, Southport had confirmed the existence of a major body of copper ore at an extremely inaccessible location in the Firstburg, a mountain in Indonesia.¹ At that time, however, the political climate in Indonesia was not attractive to foreign investment. By early 1967, the changed climate suggested further investigation of this copper ore body. Second, by 1967, the price of copper in world markets had risen to the point where even very low concentrate copper ores could be mined economically (see Table A).

Given these changes, Southport moved to investigate the Firstburg opportunity. The period between late 1967 and July 1968 was devoted to drilling and analyzing the extent of the deposit. By July 1968, Southport had learned that the Firstburg contained 33 million tons of ore with an average copper content of 2.5%² and significant traces of gold and silver.

At this point, the Bechtel Corp. (an engineering and construction firm) was asked to determine the cost and feasibility of establishing a mine site at an elevation of 9,200 ft in an uninhabited area separated from water transportation facilities by 39 miles of rain forest and 24 miles of precipitous mountain terrain. In December

TABLE A
Refined Copper Price, London Metal Exchange

	Cents/lb
1955	43.9¢
1956	41.1
1957	27.4
1958	24.8
1959	29.8
1960	30.8
1961	28.7
1962	29.3
1963	29.3
1964	44.0
1965	58.6
1966	69.1
1967	51.2
1968	56.0
1969	66.3

1. The ore body was actually discovered by a young petroleum geologist on a mountain climbing expedition in 1936. The geologist's findings were published in Holland in 1939, but created no interest until the managing director of the East Borneo Co. received an exploration permit from the Indonesian government in 1959. At that point, Southport was contacted for financial and technical assistance in carrying out the exploration.

2. The copper content of the ores from U.S. mines usually ranged from .4% to 1.2%. In some African mines the copper content averaged as high as 3.0%.

1969, Bechtel reported that the proposed mining venture could be operational by the end of 1972, with a total development cost of \$120 million. This amount would include construction costs, interest and insurance during construction, organizational and preoperating cost, and \$4.5 million of working capital. At the mining rate projected, the ore body was expected to last for 13 years. The Firstburg deposit was sufficiently rich in copper that production costs were expected to be among the lowest in the world.

Economics of the Proposed Venture

In evaluating the profitability of the proposed Indonesian mine, Southport's management assumed that refined copper prices would probably not fall below an average of 40 cents per pound. World copper consumption had continued to expand rapidly in the mid-1960s, in spite of significant price increases (Exhibit 2). However, the production of copper ore had not kept pace with the demand for refined copper. The results were reduced inventories of refined copper, increased use of copper scrap in the production of refined copper, and rising copper prices as well as increased interest in new sources of copper ore.

At an assumed price of 40 cents per pound for refined copper, the Firstburg investment promised the cash flows shown in Exhibit 3. When discounted at rates ranging from 6% to 30%, these cash flows produced the net present value amounts shown in Exhibit 4. To show the sensitivity of the investment returns from the project to changes in the price of refined copper, Exhibit 4 also gives the net present value of the cash flows if refined copper averaged 60 cents per pound over the life of the mine.

The Firstburg investment had attractive potential (Exhibit 4); however, the project carried some substantial risks. Not the least was the possibility of future expropriation, a problem that Southport had experienced firsthand. In 1960, Southport was caught three-quarters of the way into the development of a large mine in Cuba when the Castro government expropriated the property. As a result, Southport had to write off its \$19 million equity investment.

Negotiating a Financing Plan

The 1960 Cuban experience made Southport wary of large mining ventures in less developed and politically unstable areas of the world. Fortunately for Southport, by 1969 the governments of numerous industrialized nations had designed programs of credit guarantees to stimulate the export of products of domestic companies, or to ensure long-term sources of raw materials supply to domestic companies. These guarantee programs made it possible for Southport to insulate itself from much of the risk (both operating and political) inherent in the proposed Indonesian venture.

By late 1969, Southport had tentatively negotiated an extremely complex financing package for the Firstburg project. Specifically, Southport would form a new subsidiary, Southport Indonesia, Inc. (SI) to undertake the mining venture. To

induce SI to contract to sell two thirds of the mine output to a consortium of Japanese smelters, the consortium agreed to purchase two thirds of the ore output of the mine, and to lend SI \$20 million in subordinated debt at an interest rate equal to 7%. This rate was equivalent to the actual cost incurred by the consortium in borrowing the funds made available to SI. The loan would be repayable at the rate of \$3.3 million per year between 1975 and 1980 (Exhibit 5, line 10). The Export-Import Bank of Japan guaranteed the repayment of this loan.

A comparable lending arrangement was worked out with a German buyer. In exchange for a contract in which SI agreed to sell one third of the Firstburg copper ore output to a German smelter,³ this buyer agreed to purchase one third of the ore output of the mine and induced a German bank to lend SI \$22 million of senior debt at 7% interest. This loan was repayable between 1974 and 1982 in escalating installments (Exhibit 5, line 9), and it was guaranteed by the Federal Republic of Germany.

Of the \$120 million needed to complete the Firstburg project, \$42 million was tentatively negotiated overseas; the remaining \$78 million was arranged in three separate domestic transactions. A group of U.S. banks agreed to advance SI \$18 million, repayable between 1974 and 1976 (Exhibit 5, line 8) at an interest rate $\frac{1}{2}\%$ over the prime lending rate. Repayment of this senior bank debt was guaranteed by an agency of the U.S. government, the Export-Import Bank. The guarantee was possible because SI agreed to purchase \$18 million of U.S.-manufactured equipment for use in the project.

A group of U.S. insurance companies agreed to lend SI \$40 million, repayable between 1975 and 1982 (Exhibit 5, line 7) at $9\frac{1}{4}\%$ interest. Repayment of this senior debt was guaranteed by the Overseas Private Investment Corp., an agency of the U.S. government. The cost of the guarantee, $1\frac{3}{4}\%$ per year, raised the effective interest rate on this loan to 11%. The guarantee was possible because SI agreed to purchase \$40 million of U.S.-manufactured equipment for use in the project. This purchase was in addition to the \$18 million of U.S. purchases associated with the proposed bank borrowing.

Finally, SI was to be capitalized with \$20 million of equity capital invested by Southport Minerals, Inc. The Overseas Private Investment Corp. guaranteed Southport Minerals' investment in SI against loss due to war, expropriation, and currency inconvertibility. To protect Southport, the capital to be supplied by each party to the proposed \$120 million financing would automatically increase in the event of a cost overrun by up to 20% on a pro rata basis. Thus, the project could cost as much as \$144 million before Southport would have to worry about additional financing. To further protect Southport Minerals, the Indonesian venture would be carried out by Southport Indonesia, the new subsidiary. Southport Minerals would not guarantee nor be responsible for SI's debt obligations. The proposed financing package for the complex Firstburg project is presented in simplified form in Exhibit 6.

3. Ore would be sold to both the Japanese and German buyers at prices quoted on the London Metal Exchange for refined copper, less prevailing world prices for smelting, refining, and transportation.

Linking the Projected Investment Returns with the Proposed Financing Program

The tentative financing package made it possible for Southport to contemplate an investment that the company might otherwise have forgone. The financing plan created some serious problems, however, about evaluating the investment worth of the project to Southport Minerals, Inc. Four different conceptual approaches (each producing a dramatically different net present value solution) were advanced by different members of Southport's management team as the proper method for analyzing the investment worth of the Firstburg project.

Approach 1. Discount at Southport Minerals' Cost of Capital, Ignoring Specifics of the Financing Choice

This approach was the one commonly used at Southport. It called for discounting the Firstburg project cash flows at Southport Minerals' presumed 15% cost of capital.⁴ This approach ignored the specifics of Firstburg financing. Assuming a price of 40 cents per pound for refined copper, it produced a \$2 million net present value for the investment proposal (Exhibit 4).

Approach 2. Discount at a Premium above Southport Minerals' Cost of Capital, Ignoring Specifics of the Financing Choice

This approach argued that the Firstburg proposal was substantially riskier than the typical investment opportunity usually accepted by Southport Minerals. For this reason, it was argued that a higher discount rate, in the neighborhood of 20%, should be applied. At a 20% discount rate (assuming 40 cents per pound for refined copper), the project had a net present value of negative \$17 million (Exhibit 4).

Approach 3. Discount at Southport Indonesia's Cost of Capital, Taking into Consideration the Specific Financing Choice

This approach accepted the idea that the required rate of return on Southport Minerals' equity investment in SI should probably be higher than Southport Minerals' assumed 15% cost of capital. Advocates of this position argued further, however, that the Firstburg project was a "stand alone" investment with unique leverage opportunities. This line of reasoning suggested that given SI's proposed capital structure as of December 31, 1972, the subsidiary's cost of capital (assuming an equity cost of 20%) would be only 7.6%, as shown in Table B. At this discount rate, assuming 40 cents per pound for refined copper, the Firstburg project had a net present value of \$58 million (Exhibit 4).

4. Since Southport Minerals' capital structure was almost 100% equity at December 31, 1969 (Exhibit 1), the company assumed that its cost of capital was the same as its cost of equity, which the company believed to be about 15%.

TABLE B
Southport Indonesia's Cost of Capital

	Amount (\$ millions)	% of Total Capital Structure	Pre-Tax Capital Cost	After-Tax Capital Cost	Weighted Averaged Cost of Capital
U.S. insurance					
company loans . . . \$	40	33%	11%	6.6%	2.2%
U.S. bank loans . . .	18	15	7	4.2	.6
German loans . . .	22	18	7	4.2	.7
Japanese loans . . .	20	17	7	4.2	.7
Equity	20	17	33	20.0	3.4
Total	\$120	100%			7.6%

Approach 4. Discount Dividends Paid versus Equity Invested at SI's Cost of Equity

This approach argued that Southport Minerals would be totally insulated from the threat of losing more than its equity investment in SI; thus, it was inappropriate to view the investment in the project as \$120 million. Southport's relevant investment was really \$20 million; the relevant cash returns consisted solely of dividends paid on the equity investment. Advocates of this approach argued that cash flowing to the lenders for debt repayment created no value whatever for Southport Minerals. Cash generated through profitable operations that was not paid out as dividends had no value either, since earnings retentions could be lost in the event of expropriation.⁵ According to this argument, a full partitioning of actual project cash flows to the appropriate providers of capital had to be considered in the analysis. Exhibit 7 suggests a faster paydown of debt (sum of lines 10 and 11) than that indicated in Exhibit 5 (line 11). This was true, since the loan guarantors demanded *prepayments* of debt in an amount equal to dividends whenever dividends were paid.⁶ In addition, dividends were prohibited prior to December 31, 1974, and no dividends could be paid if SI's net working capital fell below \$10 million. Under this set of assumptions, SI's repayments and *prepayments* on each loan would appear as shown in Exhibit 8. The net present value of the relevant cash flows (Exhibit 7, lines 12 and 13) using this logic would equal \$10 million, assuming 40 cents per pound for refined copper and a 20% cost of equity. The net present values of the cash flows at other discount rates varying from 6% to 30% are presented in Exhibit 9.

5. The U.S. government guarantee of Southport Minerals' equity investment would cover the expropriation risk only with respect to the initial investment. It did not cover the additional equity investment created through earnings retentions.

6. In reality, the relation between debt *prepayments* and dividends was somewhat more complex. The factual situation has been simplified for clarity in the case situation.

EXHIBIT 1

Financial Data for Southport Minerals, Inc., 1954-1969 (millions of dollars except per share data)

	Profitability and Financial Position								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Profit after Tax	PAT/ Equity	Cash and Marketable Securities	Other Assets	Total Assets	Borrowed Money	Other Liabilities	Net Worth	Total Liab., Net Worth
1954 . .	\$10.1	19.9%	\$ 9	\$ 57	\$ 66	\$0	\$15	\$ 51	\$ 66
1955 . .	12.4	19.2	19	63	82	0	17	65	22
1956 . .	13.4	18.9	19	69	88	0	17	71	88
1957 . .	13.0	17.0	7	87	94	0	18	76	94
1958 . .	13.1 ^a	8.8	70 ^b	94	164	0	15	149 ^b	164
1959 . .	14.5	9.4	67	100	167	0	13	154	167
1960 . .	13.2 ^c	9.4	64	140	204	0	63	141 ^c	204
1961 . .	12.9	8.9	58	153	211	0	66	145	211
1962 . .	12.7	8.6	59	123	182	0	33	149	182
1963 . .	12.8	8.2	51	124	175	0	18	157	175
1964 . .	15.3	9.2	54	173	227	0	61	166	227
1965 . .	21.7	12.1	51	156	207	0	30	179	209
1966 . .	32.2	16.4	63	176	239	8	35	196	239
1967 . .	32.4	15.5	47	228	275	7	60	208	275
1968 . .	40.4	17.8	43	247	290	7	56	227	290
1969 . .	28.5	12.3	51	243	294	6	57	231	294

	Market Valuation Data					
	(10)	(11)	(12)	(13)	(14)	(15)
	Earnings/ Share	Dividends/ Share	Dividend Payout Ratio	Market Value of Equity	Market Value/ Book Value of Equity	Price/ Earnings Ratio
1954 . .	\$.70	\$.42	60%	\$ 170	3.3	17
1955 . .	.83	.44	53	228	3.5	18
1956 . .	.89	.50	56	236	3.3	18
1957 . .	.86	.50	58	176	2.3	14
1958 . .	.87	.50	57	248	1.7	19
1959 . .	.96	.60	63	199	1.3	14
1960 . .	.88	.60	68	235	1.7	18
1961 . .	.85	.60	71	210	1.4	16
1962 . .	.84	.60	71	172	1.2	14
1963 . .	.84	.60	71	266	1.7	21
1964 . .	1.00	.60	60	341	2.1	22
1965 . .	1.41	.80	57	478	2.7	22
1966 . .	2.08	1.06	51	593	3.0	18
1967 . .	2.09	1.25	60	1,122	5.4	35
1968 . .	2.61	1.40	54	683	2.0	17
1969 . .	1.84	1.60	87	320	1.4	11

Sources: Southport Minerals, Inc., annual reports, Bank and Quotation Record.

a. Excludes extraordinary profit of \$67 million from the sale of oil and gas interests.

b. In 1958, Southport's cash and net worth grew dramatically as a result of the cash sale of the company's oil and gas interests for nearly \$100 million.

c. In 1960, Southport wrote off its equity investment in subsidiaries located in Cuba. Profit data exclude the effect of this extraordinary charge.

EXHIBIT 2

World Copper Consumption and Production by Smelter Location and Origin of Ore.
1963–1969 (thousands of tons)

	1963	1964	1965	1966	1967	1968	1969
<i>World Copper Consumption</i>							
1. United States . . .	1,580	1,683	1,855	2,240	1,595 ^a	1,707 ^a	1,914
2. Japan	339	504	471	532	679	766	888
3. Germany	535	628	610	541	548	681	728
4. United Kingdom . .	615	698	717	653	567	594	603
5. All other free world	1,408	1,565	1,593	1,639	1,481	1,594	1,749
6. Total free world . .	4,477	5,078	5,246	5,605	4,870	5,342	5,882
7. Soviet sphere . . .	850	955	995	1,010	1,070	1,122	1,211
8. Total world	5,327	6,033	6,241	6,615	5,940	6,464	7,093
<i>World Copper Production by Smelter Location</i>							
9. United States . . .	1,393	1,418	1,521	1,580	930 ^a	1,352 ^a	1,678
10. Zambia	637	704	767	656	698	732	775
11. Chile	615	647	615	667	695	687	713
12. Japan	325	377	403	446	518	605	694
13. West Germany . . .	334	371	394	414	422	477	441
14. Canada	361	398	422	410	478	499	431
15. Congo	298	305	318	349	352	359	401
16. All other free world	710	712	730	846	851	928	947
17. Total free world . .	4,673	4,932	5,170	5,368	4,944	5,639	6,080
18. Soviet sphere . . .	752	858	903	968	1,050	1,108	1,185
19. Total world	5,425	5,790	6,073	6,336	5,994	6,747	7,265
<i>World Copper Production by Origin of Ore^b</i>							
20. United States . . .	1,208	1,251	1,356	1,408	950 ^a	1,203 ^a	1,535
21. Zambia	648	710	767	687 ^c	731	755	793
22. Chile	662	685	645 ^c	701	728	726	758
23. Canada	462	487	510	508	603	633	573 ^c
24. Congo	298	305	318	349	353	358	399
25. All other free world	967	961	969	1,098	1,084	1,168	1,242
26. Total free world . .	4,245	4,399	4,565	4,751	4,449	4,843	5,300
27. Soviet sphere . . .	723	818	867	927	1,009	1,077	1,160
28. Total world	4,968	5,217	5,432	5,678	5,458	5,920	6,460

Source: Yearbook of the American Bureau of Metal Statistics, 1970.

a. Between July 15, 1967, and March 30, 1968, the U.S. copper producers were on strike. Copper mining, smelting, and consumption were cut significantly during this period.

b. Some countries with copper mines exported the ore to be smelted and refined elsewhere.

c. Production was interrupted in Chile in 1965, Zambia in 1966, and Canada in 1969.

EXHIBIT 3
Calculations of Cash Flows Associated with the Firstburg Investment Opportunity, 1973-1985 (millions of dollars)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	Total
1. Sales: 130 mil. lbs copper @ 40 cents	\$52.0													
2. 68,000 oz gold @ \$35	2.4													
3. .75 mil. oz silver @ \$1.65	1.2													
4. Total sales	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	55.6	\$722.8
5. Mining and milling costs ^a	6.2	6.2	6.2	7.5	7.5	7.5	7.5	7.5	8.8	8.8	8.8	8.8	8.8	100.1
6. Smelting, refining, freight, and other	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	169.0
7. Operating profits	36.4	36.4	36.4	35.1	35.1	35.1	35.1	35.1	33.8	33.8	33.8	33.8	33.8	453.7
8. Depreciation and amortization	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	115.5
9. Earnings before interest and taxes	27.5	27.5	27.5	26.2	26.2	26.2	26.2	26.2	24.9	24.9	24.9	24.9	25.1	338.2
10. Taxes @ 40% ^b	11.0	11.0	11.0	10.5	10.5	10.5	10.5	10.5	10.0	10.0	10.0	10.0	10.0	135.5
11. Profit after taxes	16.5	16.5	16.5	15.7	15.7	15.7	15.7	15.7	14.9	14.9	14.9	14.9	15.1	202.7
12. Depreciation and amortization	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.7	115.5
13. Cash flow from operations	25.4	25.4	25.4	24.6	24.6	24.6	24.6	24.6	23.8	23.8	23.8	23.8	23.8	318.2
14. Return of working capital ^c	-	-	-	-	-	-	-	-	-	-	-	-	4.5	4.5
15. Total cash return	\$25.4	\$25.4	\$25.4	\$24.6	\$24.6	\$24.6	\$24.6	\$24.6	\$23.8	\$23.8	\$23.8	\$23.8	\$28.3	\$322.7
16. Total cash investment ^d	-	-	-	-	-	-	-	-	-	-	-	-	-	\$120.0

Sources: Wall Street institutional research reports; Southport Minerals, Inc., 10-K report to the SEC, 1969; casewriter's estimates.

Note: Based on the assumption that future world copper prices equal 40 cents per pound.

a. During the first 3 years of mining operations, costs were expected to be relatively low, as a significant portion of the copper ore at Firstburg was covered with very little overburden (non-ore-bearing material). Conventional open pit mining at slightly higher cost would be undertaken in the middle years of the mine's life. More expensive underground mining would not be necessary until the latter years of mine operation.

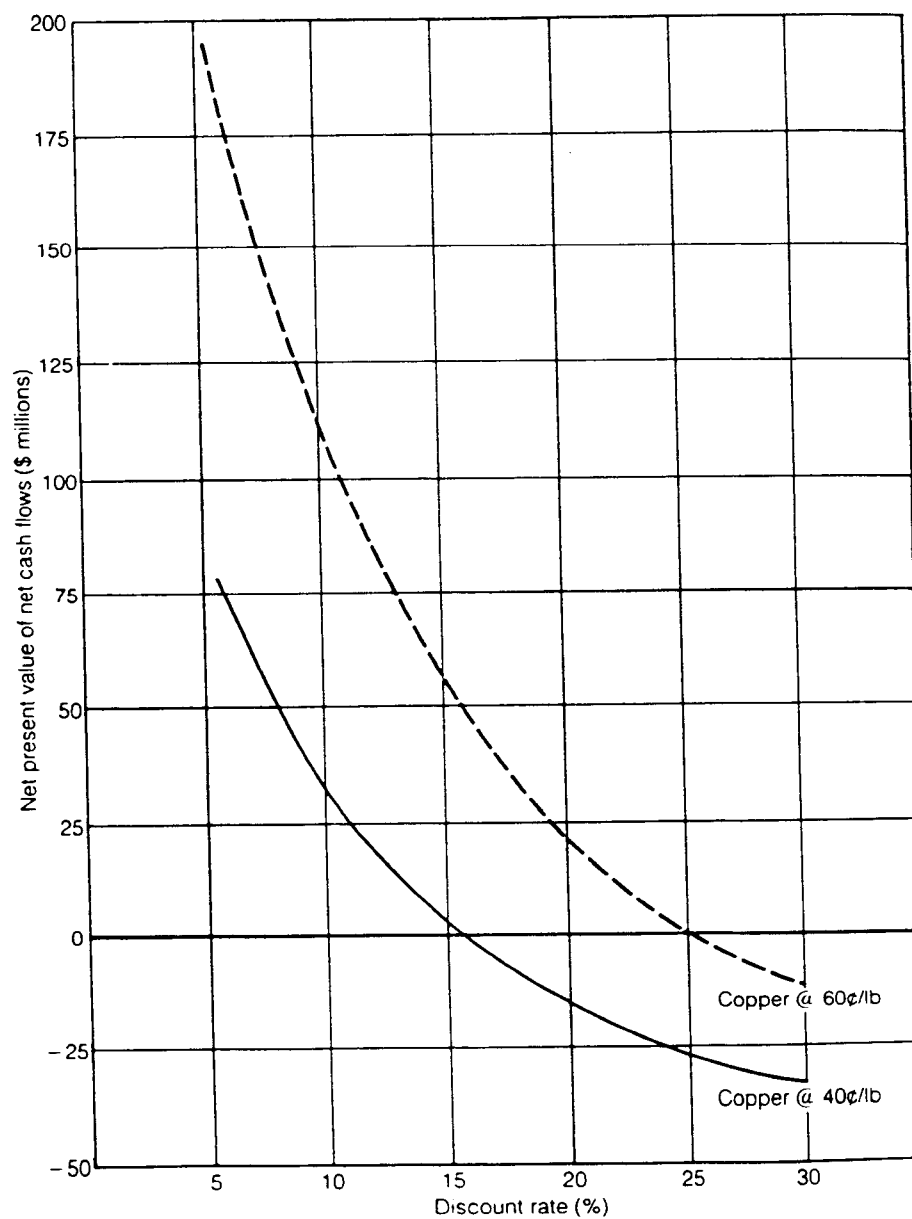
b. For simplicity, a 40% tax rate was assumed. Indonesia granted tax concessions making the Indonesian tax rate substantially lower than 40%. Additional taxes would be incurred by Southport Minerals in the U.S., however, on any of Southport Indonesia's earnings which were repatriated through the payment of dividends.

c. Of the \$120 million in capital originally budgeted for the project, \$4.5 million was for working capital.

d. Total cash investment equaled \$120 million over a 4-year period: 1969, \$7.5 mil.; 1970, \$18.9 mil.; 1971, \$42.5 mil.; and 1972, \$51.1 mil.

EXHIBIT 4

Net Present Value of the Net Cash Flows Associated with the *Total* Investment in the Firstburg Project Calculated at Various Discount Rates



Note: Exhibit 3 cash flows, lines 15 and 16, discounted for the 40¢/lb copper example.

EXHIBIT 5

Proposed Capital Takedown Plan and Contractual Loan Principal Repayment Schedule, 1969-1982 (millions of dollars)

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	Total
Capital Takedown Schedule															
1. Senior debt—Insurance companies			\$ 6.7	\$17.1	\$16.2										\$ 40.0
2. Senior debt—U.S. banks			3.1	7.6	7.3										18.0
3. Senior debt—German bank			2.4	8.2	11.4										22.0
4. Junior debt—Japanese ore buyers			6.3	5.6	8.1										20.0
5. Equity—Southport Minerals, Inc.	\$7.5	.4	4.0	8.1											20.0
6. Total capital	\$7.5	\$18.9	\$42.5	\$51.1											\$120.0
Loan Principal Repayment Schedule															
7. Senior debt—Insurance companies							\$.9	\$ 2.2	\$ 7.1	\$ 6.3	\$ 5.9	\$ 5.9	\$5.9	\$5.8	\$ 40.0
8. Senior debt—U.S. banks						\$7.2	6.4	4.4	—	—	—	—	—	—	18.0
9. Senior debt—German bank						.7	1.4	2.1	2.1	2.8	3.2	3.3	3.2	3.2	22.0
10. Junior debt—Japanese ore buyers						—	3.3	3.3	3.3	3.4	3.4	3.3	—	—	20.0
11. Total repayments						\$7.9	\$12.0	\$12.0	\$12.5	\$12.5	\$12.5	\$12.5	\$9.1	\$9.0	\$100.0

Source: Southport Minerals, Inc., 10-K report to the SEC, 1969.

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EXHIBIT 6
Loan Guarantors, Capital Providers, and Ore Buyers Involved in the Proposed Investment Project

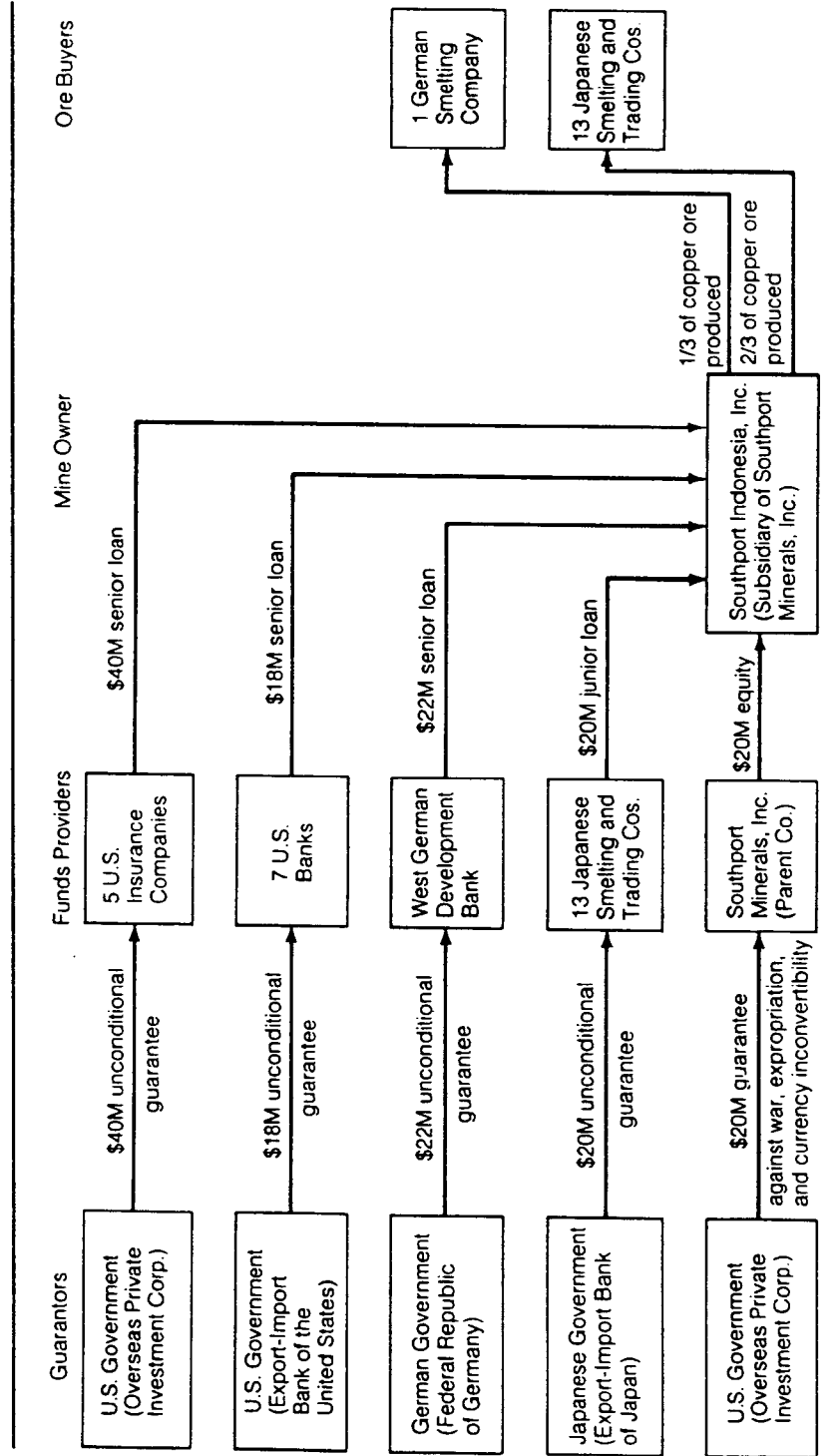


EXHIBIT 7

Calculation of Cash Flows (Dividends) to Southport Minerals from Its Southport Indonesia Subsidiary, 1969-1985 (millions of dollars)

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	Total
1. Earnings before interest and taxes ^a					\$27.5	\$27.5	\$27.5	\$26.2	\$26.2	\$26.2	\$26.2	\$26.2	\$24.9	\$24.9	\$24.9	\$24.9	\$25.1	\$338.2
2. Interest					8.6	7.2	6.4	5.3	4.0	2.3	.6							34.4
3. Pre-tax profits					18.9	20.3	21.1	20.9	22.2	23.9	25.6	26.2	24.9	24.9	24.9	24.9	25.1	303.8
4. Taxes @ 40%					7.6	8.1	8.4	8.4	8.8	9.5	10.2	10.5	9.9	9.9	9.9	9.9	9.9	121.0
5. Profit after taxes					11.3	12.2	12.7	12.5	13.4	14.4	15.4	15.7	15.0	15.0	15.0	15.0	15.2	182.8
6. Depreciation and amortization					8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.7	115.5
7. Cash flow from operations					20.2	21.1	21.6	21.4	22.3	23.3	24.3	24.6	23.9	23.9	23.9	23.9	23.9	298.3
8. Working capital changes ^b						(5.5)						5.5					4.5	4.5
9. Cash flow for debt repayment and dividends					20.2	15.6	21.6	21.4	22.3	23.3	24.3	30.1	23.9	23.9	23.9	23.9	28.4	302.8
10. Contractually required debt repayment						7.9	5.6	5.5	10.4	9.7	5.0							44.1
11. Debt prepayments required ^c					20.2	3.8	8.0	7.9	5.9	6.8	3.3							55.9
12. Cash available for dividend payments ^c					\$ 0	\$ 3.9	\$ 8.0	\$ 8.0	\$ 6.0	\$ 6.8	\$ 16.0	\$ 30.1	\$ 23.9	\$ 23.9	\$ 23.9	\$ 23.9	\$ 28.4	\$ 202.8
13. Cash investment (equity only)	\$7.5	\$ 4	\$4.0	\$8.1														\$ 20.0

Sources: Wall Street institutional reports; Southport Minerals, Inc., 10-K report to the SEC, 1969; casewriter's estimates.

Note: Based on the assumption that future world copper prices equal 40 cents per pound.

a. Data taken from Exhibit 3, line 9.

b. \$4.5 million of the \$120 million capital investment in Southport Indonesia was to be used as working capital. Since under the various loan covenants dividends could not be paid unless net working capital was at least \$10 million, \$5.5 million of cash flow was retained and committed to net working capital as of December 31, 1974. Since the loans were entirely repaid by December 31, 1980, these covenants became inoperative and the \$5.5 million of working capital not needed to support normal operations could be paid out in dividends.

c. Under various loan covenants, no dividends could be paid until December 31, 1974, and debt prepayments in an amount equal to the proposed dividend had to be made before the dividend could be paid.

EXHIBIT 8

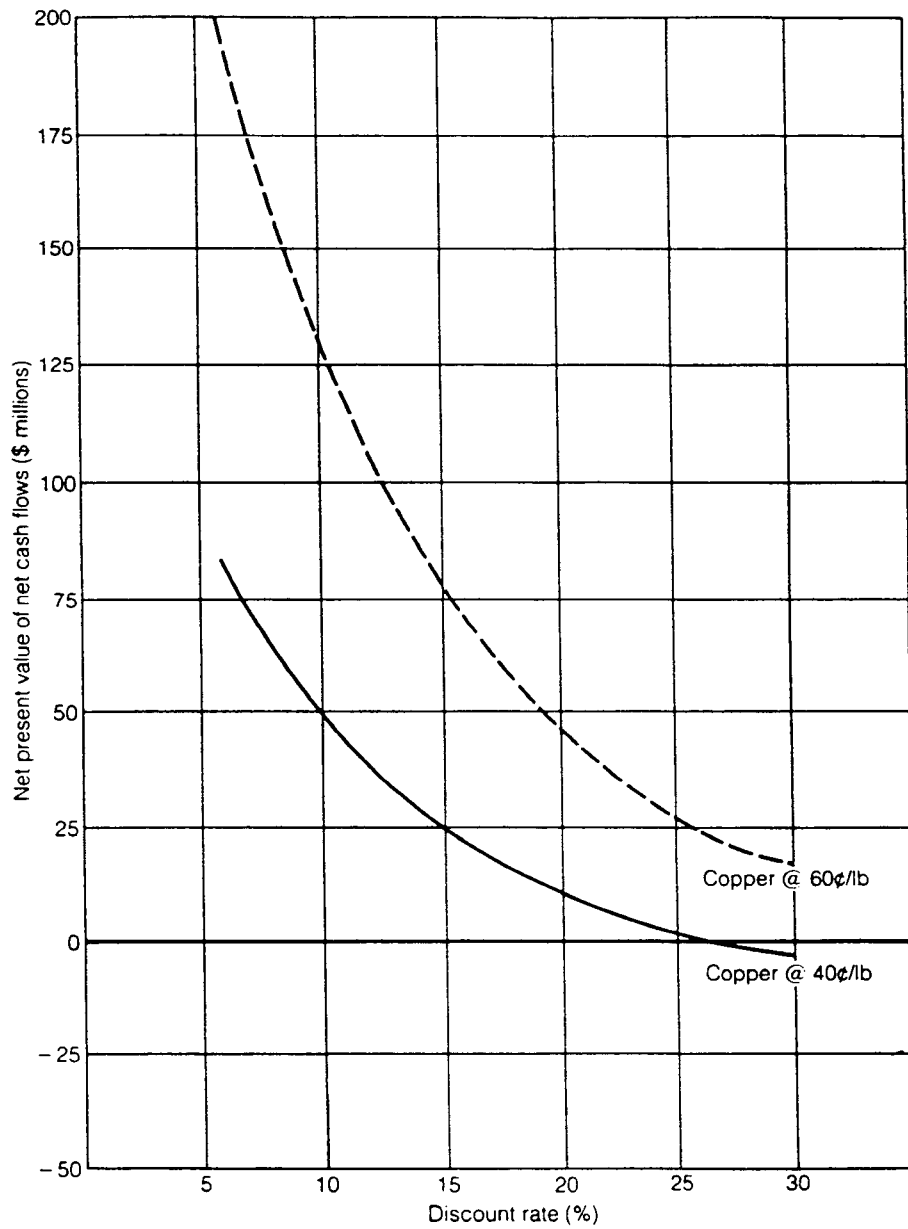
Schedule of Debt Amortization Required under Various Loan Agreements, 1973–1979 (millions of dollars)

<i>Loan Principal Repayment Schedule</i>	<i>1973</i>	<i>1974</i>	<i>1975</i>	<i>1976</i>	<i>1977</i>	<i>1978</i>	<i>1979</i>	<i>Total</i>
<i>Senior Debt—Insurance Companies</i>								
1. Contractual repayment	—	—	\$.9	\$ 2.2	\$ 7.1	\$ 6.3	\$1.6	\$ 18.1
2. Prepayment	—	—	1.3	7.9	5.9	6.8	—	21.9
3. Total amortization	—	—	\$ 2.2	\$10.1	\$13.0	\$13.1	\$1.6	\$ 40.0
<i>Senior Debt—U.S. Banks</i>								
4. Contractual repayment	—	\$ 7.2	—	—	—	—	—	\$ 7.2
5. Prepayment	\$ 9.1	1.7	—	—	—	—	—	10.8
6. Total amortization	\$ 9.1	\$ 8.9	—	—	—	—	—	\$ 18.0
<i>Senior Debt—German Bank</i>								
7. Contractual repayment	—	\$.7	\$ 1.4	—	—	—	—	\$ 2.1
8. Prepayment	\$11.1	2.1	6.7	—	—	—	—	19.9
9. Total amortization	\$11.1	\$ 2.8	\$ 8.1	—	—	—	—	\$ 22.0
<i>Junior Debt—Japanese Ore Buyers</i>								
10. Contractual repayment	—	—	\$ 3.3	\$ 3.3	\$ 3.3	\$ 3.4	\$3.4	\$ 16.7
11. Prepayment	—	—	—	—	—	—	3.3	3.3
12. Total amortization	—	—	3.3	3.3	3.3	3.4	6.7	20.0
13. Total contractual repayments	—	7.9	5.6	5.5	10.4	9.7	5.0	44.1
14. Total prepayment	20.2	3.8	8.0	7.9	5.9	6.8	3.3	55.9
15. Total debt amortization	\$20.2	\$11.7	\$13.6	\$13.4	\$16.3	\$16.5	\$8.3	\$100.0

Sources: Southport Minerals, Inc., 10-K report to the SEC, 1969; casewriter's estimates.*Note:* Based on the assumption of Southport Indonesia, Inc., paying the maximum permitted dividends at the earliest possible dates.

EXHIBIT 9

Net Present Value of the Net Cash Flows Associated with the *Equity* Investment in the Firstburg Project Calculated at Various Discount Rates



Note: Exhibit 7 cash flows, lines 12 and 13, discounted for the 40¢/lb copper example.